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**United States Patent** [19][11] **Patent Number:** **5,433,723****Lindenberg et al.**[45] **Date of Patent:** **Jul. 18, 1995**[54] **APPARATUS FOR WIDENING A STENOSIS**[75] **Inventors:** **Josef Lindenberg; Wolfram Schnepf-Pesch**, both of Karlsruhe, Germany[73] **Assignee:** **Angiomed AG, Karlsruhe, Germany**[21] **Appl. No.:** **202,468**[22] **Filed:** **Feb. 28, 1994****Related U.S. Application Data**

[63] Continuation of Ser. No. 959,615, Oct. 13, 1992, abandoned.

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Mar. 10, 1992 [DE] Germany ..... 42 07 557.2[51] **Int. Cl.<sup>6</sup>** ..... **A61M 29/00**[52] **U.S. Cl.** ..... **606/198; 623/1; 623/12**[58] **Field of Search** ..... 606/108, 191, 195, 198, 606/200; 604/96, 104-109, 127, 128; 623/1, 11, 12; 128/899**References Cited****U.S. PATENT DOCUMENTS**4,665,918 5/1987 Garza et al. .  
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2617721 7/1987 France .*Primary Examiner*—Peter A. Aschenbrenner*Assistant Examiner*—William Lewis*Attorney, Agent, or Firm*—Antonelli, Terry, Stout & Kraus[57] **ABSTRACT**

The invention relates to an apparatus for widening a stenosis in an elongated body cavity such as an artery, the urethra, the ureter, a bile duct or the like, characterized by an endoprosthesis made from a memory alloy with a substantially cylindrical jacket-like outer contour with a lock surrounding and radially holding together the endoprosthesis and with an applicator for the endoprosthesis. It is important that the apparatus is supplied in such a way that in the delivery pack the endoprosthesis is held radially from the outside in its compressed (low temperature) position, which is ensured by the above-described construction of the apparatus according to the invention.

**15 Claims, 4 Drawing Sheets**